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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/913,008	10/12/2001	Christian Terfloth	#EL489599575US	2033

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EXAMINER

ROBERTSON, JEFFREY

ART UNIT PAPER NUMBER

1712

DATE MAILED: 05/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/913,008

Applicant(s)

TERFLOTH ET AL.

Examiner

Jeffrey B. Robertson

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 October 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 18-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 18-46 is/are rejected.
- 7) ☒ Claim(s) 22,23,25,26,28-30,32,33,36,37,40 and 44 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>0801</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for priority under 35 U.S.C. 119(a)-(d) based upon PCT/DE00/00384 filed on February 10, 2000. A claim for priority under 35 U.S.C. 119(a)-(d) cannot be based on said application, since the United States application was filed more than twelve months thereafter.
2. This application filed under former 37 CFR 1.62 lacks the necessary reference to the prior application. A statement reading "This is a national stage entry of Application No. PCT/DE00/00384, filed February 10, 2000." should be entered following the title of the invention or as the first sentence of the specification.

Specification

3. The disclosure is objected to because of the following informalities: The specification, especially on page 6, lines 7-18, does not identify the type of molecular weight of the isocyanate reactive polymer. Since there may be large variations in molecular weight depending on whether the molecular weight is expressed as a number average molecular weight or a weight average molecular weight, the specification does not provide sufficient direction to one of ordinary skill in the art to select the appropriate polymer.

Appropriate correction is required.

Claim interpretation

4. It is noted that in claims 19, 20, 22-24, and 35, applicant has used the word "particularly" in reference to certain ranges within the aforementioned claims. The examiner has not interpreted these claims to be limited to the ranges that have been particularly specified, because the range is not required. For claim 28, the limitations following the terms "particularly" and "such as" have been interpreted as not being required in the claim. For claim 34, because of the word "preferably", the examiner has interpreted the claim as not to require that the non-isocyanate reactive polymer be present in the claimed range, since the range is only preferable. For claim 36, the examiner notes the use of the word "preferably" in line three of the claim. The examiner has not considered the range to be limited to the preferred range in interpreting the claim since it is not a required range. The same is true with the word "preferably" present in line 2 of claim 38.

Claim Objections

5. Claims 22, 23, 25, 26, 28, 29, 30, 32, 33, 36, 37, 40, and 44 are objected to because of the following informalities:

For claim 22, the use of "and/or" in the Markush group defining the isocyanate is confusing. Normally, Markush terminology employs the language "selected from the group consisting of...and...." The use of "and/or" between individual members of the Markush group calls into question whether the individual members are part of the group. A similar problem exists in claim 37.

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For claim 23, in line 5 there is a period after "polyethers". This should be deleted since periods indicate the end of a claim. Also for claim 23, in lines 5-6 of the claim, the use of "and/or" is confusing because the presence of the word "or" would appear to mean that the isocyanate-reactive starting polymer need not be selected from the group set forth but that it only requires at least two reactive groups. Was this intended?

For claim 24, in line 2, there is a period before "particularly" in line 2. This should be deleted since periods indicate the end of a claim.

For claims 22, 25, 26, 28, 32, 33, 37, 40, and 44, the use of expressions in parentheses at the very least is superfluous. In other cases, such as in claim 33, it is not clear if the expression in parentheses is a further limitation. For example, must the intermediate container be a buffer tank? In addition, for claim 28, what is the difference between a "softener (plasticizers)" and a "plastification" additive?

For claim 29, applicant uses the term "molar mass" in the claim. The specification and other claims refer to "molecular weight". The expression in claim 29 should be changed to be consistent with the other claims and the specification.

For claim 32, in line 2, there is a period after "(buffer tanks)" in line 3. This should be deleted since periods indicate the end of a claim.

For claim 36, in line 2 there is a period in the number "20.000". This should be changed to "20,000" since periods indicate the end of a claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claims 18-46 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

For claims 18, 23, 29, 31, 33, and 38, the claims do not identify whether the molecular weight specified is number average or weight average molecular weight. One of ordinary skill in the art would not know how to select an appropriate polymer without the identification of the type of molecular weight. See the objection to the specification above.

8. Claims 26 and 41 are rejected because the specification, while being enabling for resins in the first adhesive component, does not reasonably provide enablement for resins present in the second adhesive component. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

In the specification, on page 6, lines 20-27, applicant states that the resins claimed in claims 26 and 41 can be used in the first adhesive component. However, in claims 26 and 41, applicant claims that the resins are used in the second adhesive component as well as the first component. The specification does not enable this claimed embodiment.

9. Claims 26, 37, 38, and 41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 26, in lines 5 and 6 of the claim, the use of the terms "and/or particularly" is indefinite. With the use of the term "or", it is not known if the resin must be of the Markush group set forth in the claim, if it only needs to have low acid number, or if the resin is only needs to be present in a specific amount without any specific identity. Since the term "particularly" follows the term "and/or" and the resin can be present in an amount of 0% by weight, the actual limitations of this claim cannot be determined.

For claim 37, the term "and/or preferably" is indefinite because it is not known if the isocyanates must be selected from the group set forth in the claim.

For claim 38, the use of the terms "particularly", "preferably", and "and/or preferably" in lines 3-5 of the claim render the claim indefinite because it is not known what limitations are actually required in the claim.

For claim 41, the phrase "particularly wherein said resin is preferably", the presence of "and/or" in the Markush group, and expression "and/or particularly wherein" render the claim indefinite because it is not known what limitations are actually required in the claim.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 18, 19, 21-35, and 37-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rossitto (U.S. Patent No. 5,977,283) in view of Helmeke et al. (U.S. Patent No. 5,869,593) and Colon et al. (U.S. Patent No. 4,895,567).

For claims 18, 29, 31, and 33, in column 2, lines 25-45, Rossitto teaches adhesives with superior characteristics. In column 2, line 65 through column 3, line 26, Rossitto discloses a hot melt adhesive that contains an isocyanate-reactive polymer and a polyfunctional isocyanate. In column 4, line 52 through column 5, line 11, Rossitto

teaches that the molecular weight of the isocyanate-reactive polymer is preferably between 8,000 and 15,000 Da. For claims 23 and 38, in column 5, lines 33-48, Rossitto teaches that the isocyanate-reactive polymer is a polyester containing hydroxyl groups. For claims 24, 27, 39, and 42, in column 7, lines 35-39, Rossitto teaches the presence of 80-90 parts by weight of the isocyanate-reactive component and 10 to 20 parts of the isocyanate, which corresponds to an amount of isocyanate-reactive polymer of 80-90% by weight. This is within applicant's range, where the ratio of (a) to (b) is from 4:1 to 9:1. Here, for claim 31, Rossitto teaches that the blending takes place while heating. Under this melt blending process, the components are blended to a liquid state. For claims 25 and 40, in column 8, lines 14-28, Rossitto teaches that the components may be present in granular form.

For claims 22 and 37, in column 6, lines 19-62, Rossitto teaches that the isocyanate is preferably present in solid form at room temperature and may be TDI.

For claims 26 and 41, Rossitto does not teach that a resin is present; corresponding to applicant's an amount of 0% by weight.

For claim 28, in column 11, lines 3-22, Rossitto teaches the addition of catalysts to the adhesive.

For claim 30, in column 9, lines 55-65, Rossitto teaches that the adhesive is moisture-reactive.

For claims 31 and 46, in column 9, lines 12-26, Rossitto teaches that the adhesive package is stored for up to 6 months, which would allow for transportation to the automotive upholstering plant.

For claims 43 and 45, in column 2, lines 25-45, Rossitto teaches that the adhesive is applied to substrates to be bonded and is used in upholstering applications.

For claims 33 and 44, in column 8, lines 55-64, Rossitto teaches that the composition is converted into a film by conventional casting or film extrusion techniques, which involve the use of die applications.

For claims 18, 19, 21, 29, 31, and 33-35, Rossitto fails to teach the presence of polymer that is not isocyanate reactive and is selected from the group consisting of ethylene/vinyl-acetate copolymer and/or polyolefin.

In column 3, lines 10-16, Helmeke teaches that thermoplastic components are added to polyurethane hot melt adhesives to improve film forming characteristics. In column 6, line 33 through column 7, line 4, Helmeke teaches that ethylene/vinyl-acetate copolymers available under the tradename of Elvax® are added in an amount of preferably 5 to 20% by weight of the composition. Colon teaches in column 5, lines 22-31, that particular ethylene/vinyl-acetate copolymers available under the tradename of Elvax® suitable for hot melt adhesives have a vinyl-acetate content of from 17 to 29% and a melt index of from 455-550.

Rossitto and Helmeke are analogous art in that they both teach hot melt adhesives that contain polyurethane forming ingredients. Colon is analogous art because it teaches hot melt adhesives containing Elvax® ethylene/vinyl-acetate copolymers.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the ethylene/vinyl-acetate copolymers of Helmeke with the particular

Elvax® copolymers set forth in Colon in the hot-melt adhesives of Rossitto. The motivation would have been that Helmeke teaches that the addition of these copolymers improves film-forming properties. The motivation to add the particular copolymers taught by Colon would have been that Helmeke teaches a broad genus of copolymers that may be added, namely those ethylene/vinyl-acetate copolymers with the tradename Elvax®. One of ordinary skill in the art would have turned to Colon for specific copolymers within the genus that are particularly suitable for hot-melt adhesives.

Conclusion


14. It is noted that there are several X references listed on the international search report. These references do not read on the present claims for the reasons set forth in the International Preliminary Examination Report.

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Uchigaki et al. (U.S. Patent No. 3,931,077), Merz et al. (U.S. Patent No. 4,871,590), Wiggins et al. (U.S. Patent No. 5,623,019), Abend (U.S. Patent No. 5,710,215), Shimizu (U.S. Patent No. 5,827,926), Horn et al. (U.S. Patent No. 6,169,124), Cieben et al. (U.S. Patent No. 6,174,959), and Chu (U.S. Patent No. 6,482,878) are cited for general interest.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey B. Robertson whose telephone number is (571) 272-1092. The examiner can normally be reached on Mon-Fri 7:00-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Jeffrey B. Robertson
Primary Examiner
Art Unit 1712

JBR